

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

RECEIVED

JAN - 7 2000

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of:)	
)	
Price Cap Performance Review for)	CC Docket No. 94-1
Local Exchange Carriers)	
)	
Access Charge Reform)	CC Docket No. 96-262

COMMENTS
OF THE
UNITED STATES TELECOM ASSOCIATION

Its Attorneys:

Lawrence E. Sarjeant
Linda L. Kent
Keith Townsend
John W. Hunter
Julie E. Rones

1401 H Street, NW
Suite 600
Washington, DC 20005
(202) 326-7248

January 7, 2000

No. of Copies rec'd
List A B C D E

054

TABLE OF CONTENTS

Summary.....	i
I. INTRODUCTION AND SUMMARY.....	1
II. BOTH THE 1999 TFP STUDY AND THE IMPUTED X STUDY ARE FUNDAMENTALLY FLAWED AND NEITHER CAN BE USED TO DETERMINE THE X-FACTOR EITHER ON A RETROACTIVE OR PROSPECTIVE BASIS.....	5
A. The Commission's Continual Modifications of the Price Cap Plan are Self- Defeating in that they Diminish Both Beneficial Incentives and Regulatory Credibility.....	6
B. The Drastic Changes Proposed in the Staff Studies are Not Warranted Given the Success of Price Cap Regulation.....	8
C. The 1999 TFP study is Not Based on Economic Principles as it is Arbitrarily Biased to Increase the X-Factor and Should not be Adopted Unless Corrected as Discussed Herein.....	8
D. The Imputed X Staff Study is Theoretically Unsound and Inferior to the Use of TFP to Measure Productivity Growth.....	15
E. The Measurement of the Cost of Capital Input in the Commission's New Productivity Studies is Inconsistent with the Economic Definition of Competitive Cost of Capital and Must Not Be Utilized.....	21
F. The 1997 Model as Updated by USTA in 1998 Should be Adopted by the Commission for the Historical Period Impacted by the Court Remand and Either the 1997 Model Updated by USTA in 1999 or the USTA TFP Model Should be adopted for the Future.....	22
III. THE CONSUMER PRODUCTIVITY DIVIDEND SHOULD BE ELIMINATED.....	26
IV. THE COMMISSION SHOULD NOT INCLUDE ANY GROWTH FACTORS IN THE PRICE CAP FORMULA AND SHOULD RECOGNIZE AND INCORPORATE CHANGES THAT WILL DECREASE THE X-FACTOR SUCH AS REPLACING PER MINUTE CHARGES WITH FLAT RATE CHARGES.....	27
V. CONCLUSION.....	30

SUMMARY

There is no supportable basis for the Commission to adopt either the 1999 staff study or the imputed X staff study for either the period covered by the Court remand or on a going forward basis. The Commission must utilize the 1997 TFP model as directed by the Court for the remand period and should continue to utilize a TFP model using a five year rolling average, either the 1997 TFP updated by USTA or the USTA TFPRP, on a going forward basis. In addition, the Commission should eliminate the CPD, which has served its purpose and only now serves to double-count productivity benefits, and should not adopt any growth factors in the price cap formula.

The Commission itself has acknowledged that unexpected changes in the price cap plan are detrimental in that they diminish the LECs' incentive to reduce costs and therefore diminish the efficacy of the incentive-based price cap system. Despite this acknowledgement, the Commission has now proposed two new studies for calculating the X-Factor. Dr. Taylor observes that one of the most important aspects of policy-making, particularly under incentive regulation, is the ability of the regulator to commit to the terms of the "incentive-based" contracts. As the Commission knows, this undercuts the Commission's ability to induce the type of behavior that price cap regulation is supposed to encourage; i.e., the investment in new infrastructure, technology, pricing, introduction of new services and efficiencies that exist in unregulated, competitive markets. A price cap regulated company must have the opportunity to incorporate the incentives into its business and investment planning. The company must have some assurance that the terms are fixed and the incentives will be permitted to develop. If superior performance pursuant to the terms are penalized through its use in setting the target for the next period, the company's incentive to maximize efficiency is compromised.

Professor Gollop shows that the 1999 staff study is replete with errors that clearly evidences an arbitrary bias designed to increase the X-Factor. It alters practically every variable in the 1997 TFP model, far beyond the scope of the remand, including revenue, output, labor price, labor expense, taxes, and even the BLS input price series for the U.S. nonfarm sector. Not surprisingly, the incremental effect of each and every change is an increase in the X-Factor. The impact of these changes is devastating: arbitrarily removing an average of \$3 billion of alleged excess earnings on an annual basis due to the new cost of capital determination and an average of \$1 billion in legitimate severance expenses annually between 1991 and 1998. However, Dr. Gollop demonstrates that without the arbitrary and capricious adjustments to raise the X-Factor, the corrected 1999 staff study produces results consistent with the 1997 TFP model.

Dr. Taylor explains how the imputed X staff study eviscerates price cap regulation and even replicates the same productivity disincentives which caused the Commission to adopt price cap regulation in the first place. In fact, the Commission already rejected this approach because it would destroy the incentives of price cap regulation. Dr. Taylor states that it relies on jurisdictional separations and an interstate-only calculation that make no economic sense. It incorrectly utilizes accounting earnings resulting in erroneous conclusions. It ignores the costs associated with stimulated minutes. Its sole purpose appears to be to eliminate earnings thereby eliminating any of the price cap incentives.

Both staff studies rely on a new methodology for measuring “competitive” cost of capital which Dr. Vander Weide finds is inconsistent with the economic definition of the competitive market cost of capital because it ignores changes in the competitive market cost of equity and changes in the market value percentages of debt and equity. He characterizes it as a “short cut approach that is based on faulty assumptions. He conducts three separate analyses that refute the

assumptions. He states that it is utilized to produce another upward bias in the X-Factor. Using a market-based definition that is consistent with the definition of competitive cost of capital would dramatically change the cost of capital inputs in the staff studies by increasing the cost of capital values and reducing the staff's estimates of the X-Factor. Professor Gollop demonstrates this fact in his correction of the 1999 staff study.

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)	
)	
Price Cap Performance Review for)	CC Docket No. 94-1
Local Exchange Carriers)	
)	
Access Charge Reform)	CC Docket No. 96-262

**COMMENTS
OF THE
UNITED STATES TELECOM ASSOCIATION**

The United States Telecom Association (USTA) respectfully submits its comments in the above-referenced proceeding. USTA is the nation's oldest trade association for the local exchange carrier (LEC) industry. USTA represents more than 1,200 telecommunications companies worldwide that provide a full array of voice, data and video services over wireline and wireless networks. USTA members support the concept of universal service. Included within USTA's membership are incumbent LECs subject to price cap regulation.

I. INTRODUCTION AND SUMMARY.

On November 15, 1999, the Commission released a Further Notice of Proposed Rulemaking (FNPRM) seeking comment on the X-Factor. The X-Factor represents the amount by which LECs must outperform economy-wide productivity gains pursuant to the formula used to set the price for the interstate services under price cap regulation. It has the most significant financial impact of price cap regulation. Each 0.1 percent change in the X-Factor represents a \$23 million change in access charges. In an order released in 1997, the Commission set the X-Factor at 6.5 percent.¹ Pursuant to an appeal brought by USTA, the U.S. Court of Appeals for

¹ In the 1997 order, price cap LECs were required to reduce the prices for interstate access services by 6.5 percent on an annual basis. While the actual historical component of the X-Factor was 6.0 percent, the Commission added a 0.5 percent Consumer Productivity Dividend (CPD). See, *Price Cap Performance Review for Local Exchange*

the District of Columbia Circuit reversed and remanded the Commission's 1997 order, declaring that none of the reasons given by the Commission for choosing the X-Factor "holds water".² Pursuant to the Commission's request, the Court stayed issuance of its mandate until April 1, 2000 to permit the Commission to complete this proceeding.

In its decision, the Court clearly disapproved of the Commission's manipulation of the 1997 model that was necessary in order to achieve an X-Factor high enough to produce the price reductions it had promised AT&T.³ The Court rejected the Commission's selective use of only the highest averages, its erroneous reliance on an alleged upward trend and its irrational use of AT&T's estimates. The Court also found that the Commission did not justify the use of the .5 percent Consumer Productivity Dividend (CPD).

At the time, it seemed completely unnecessary for the Commission to demand a year to complete its work on remand and to implement corrective measures. The Commission did not need to develop a new record to adopt an appropriate, lawful response to the Court's decision. All the Commission had to do was reevaluate the extensive record before it, eliminate the errors identified by the Court and adopt an X-Factor for the period at issue. The extreme nature of the proposals contained in the FNPRM, which not only proposes two new X-Factor studies, but also proposes to set another new X-Factor beginning July 1, 2000, certainly explains why it has taken the Commission so long to respond to the Court. This FNPRM is unnecessary and ill advised. Only Option 1, the 1997 Total Factor Productivity (TFP) model, legitimately addresses the Court's concerns. Utilizing the 1997 TFP model, as discussed herein, to rectify the errors

Carriers, Fourth Report and Order, CC Docket No. 94-1, Second Report and Order, CC Docket No. 96-262, 12 FCC Rcd 16642 (1997). [1997 Performance Review].

² *USTA v. FCC*, 188 F.3d 521 (D.C. Cir. 1999).

³ Letter from Gerald M. Lowrie, Senior Vice President, AT&T, to Reed E. Hundt, Chairman, FCC, May 3, 1997 ("[I]n the event that net switched access reductions to the interexchange industry equal at least \$1.7 billion effective July 1, 1997, AT&T...will make the following commitments.").

identified by the Court and eliminating the CPD are the only steps the Commission should take to alleviate the Court's concerns. The other options, a 1999 staff study that repeats the approach rejected by the Court under which the model is arbitrarily manipulated to produce a predetermined result and the imputed X staff study which employs a methodology previously rejected by the Commission to produce a pre-determined result, must be rejected. There is no basis in the Court's decision to justify either of these options which, not surprisingly produce an X-Factor of 6.0 percent, or higher. Further, there is no basis for proposing that the CPD be continued in order to reduce rates to IXCs or to "correct" for prior years based on an assumption that the X-Factor had been set too low.

As will be discussed below, the Commission's inability to justify a 6.5 percent X-Factor to the Court of Appeals requires that the Commission apply the 1997 TFP model in a fair, straightforward and credible manner and adopt the result produced for the period affected by the Court remand (July 1, 1997 to June 30, 2000). On a going-forward basis, the Commission should continue to utilize a TFP model, since none of the parties disputed the fact that TFP is the only appropriate measurement of productivity based on a five year rolling average with a two year lag and should eliminate the CPD. Therefore, USTA urges the Commission to adopt the USTA TFPRP model or the 1997 TFP model updated to include the most recent data available. USTA has already updated the Commission's 1997 model and has provided the Commission with those results.⁴ These TFP models reflect economic principles and are within a range of reasonableness that will withstand Court scrutiny.

Neither the 1999 staff study nor the imputed X staff study should be adopted to determine the X-Factor beginning July 1, 2000. The 1999 staff study is replete with errors that demonstrate an arbitrary bias designed to increase the X-Factor. The imputed X staff study is a repudiation of

price cap regulation in favor of traditional cost plus regulation and even replicates the same productivity disincentives which caused the Commission to adopt price cap regulation in the first place. The Commission's continued recontracting of the X-Factor undermines both regulatory credibility and the beneficial incentives of price cap regulation. Finally, as USTA explained in previous comments, growth adjustments, such as the q and g factors proposed by the Commission, are already reflected in the TFP model, are based on faulty assumptions and should not be adopted.

In its comments, USTA provides an economic assessment performed by Dr. William E. Taylor of the National Economic Research Associates, Inc. describing the detrimental impact of the Commission's continued manipulation or "recontracting" of the price cap formula. The results of an analysis performed by Professor Frank Gollop of Boston College of all of the changes proposed by the Commission in the 1999 staff study is also appended hereto. The 1999 staff study alters practically every variable in the 1997 TFP model, including revenue, output, labor price, labor expense, taxes, and even the Bureau of Labor Statistics (BLS) input price series for the U.S. nonfarm sector. Not surprisingly, the incremental effect of each and every change is an increase in the X-Factor. Dr. Taylor, also analyzes the imputed X staff study and concludes that it is theoretically unsound and inferior to the use of TFP growth to determine the appropriate X-Factor. Dr. Taylor explains that the imputed X study relies on jurisdictionally separated data and an interstate-only calculation that make no economic sense. In fact, both the Commission and the Court have already rejected an interstate-only X-Factor. The imputed X staff study not only eviscerates all productivity incentives of price cap regulation, it actually produces the same disincentives of traditional cost-plus regulation. Dr. James H. Vander Weide of Duke University reviews the proposed methodology for measuring the "competitive" cost of capital input in both

⁴ USTA Ex Parte Letter, CC Docket No. 94-1, September 14, 1999.

the 1999 and the imputed X staff studies. Dr. Vander Weide concludes that the proposed methodology is inconsistent with the economic definition of the competitive market cost of capital because it ignores changes in the competitive market cost of equity and changes in the market value percentages of debt and equity. Finally, Dr. Taylor explains that there is no economic basis for continuing to impose the CPD as an additive to the X-Factor as it only serves to double count the productivity gains of price cap regulation.

II. BOTH THE 1999 TFP STUDY AND THE IMPUTED X STUDY ARE FUNDAMENTALLY FLAWED AND NEITHER CAN BE USED TO DETERMINE THE X-FACTOR EITHER ON A RETROACTIVE OR PROSPECTIVE BASIS.

In the FNPRM, the Commission seeks comment on represcribing the current X-Factor from the range determined by the 1997 TFP model. In the alternative, the Commission seeks comment on two other options, a 1999 staff study and an imputed X staff study. The Commission also seeks comment on which of these alternatives could be used to prescribe the X-Factor on a going-forward basis. As will be shown herein, neither the 1999 staff study nor the imputed X staff study are appropriate either on a retrospective or prospective basis. Both reflect an abandonment of any semblance of economic meaningfulness.⁵ The Commission should utilize the 1997 TFP model, but avoid the deficiencies and misinterpretations identified by the Court, for the period covered by the Court remand. This is consistent with the Commission's responsibility to carry out the judgment of the Court upon the basis of the proceedings already had and the record upon which the appeal was heard and determined.⁶ Pursuant to statute, the Commission cannot adopt either of the new staff studies for the period covered by the remand.

On a going-forward basis, the Commission should continue to utilize a TFP model to determine the X-Factor. Both the USTA TFPRP and the 1997 TFP model, as updated by USTA,

⁵ Price Cap Performance Review, CC Docket No. 94-1, Fourth Further Notice of Proposed Rulemaking at ¶ 16. ("...the X-Factor should be economically meaningful.").

utilize economically meaningful principles to calculate the X-Factor. The results are consistently below the 6.5 percent X-Factor reversed and remanded by the Court.

A. The Commission's Continual Modifications of the Price Cap Plan are Self-Defeating in that they Diminish Both Beneficial Incentives and Regulatory Credibility.

The Commission has acknowledged that unexpected changes in the price cap plan are detrimental. “[E]ach unexpected change in the X-Factor diminished the LECs’ incentive to reduce costs to the maximum extent possible (because such changes increased the chances that the LECs might not retain all of the benefits of doing so) and therefore diminished the efficacy of the incentive-based price cap system.”⁷ Dr. Taylor, in Attachment 1, observes that one of the most important aspects of policy-making, particularly under incentive regulation, is the ability of the current and future regulator to commit to the incentive-based “contracts” that are adopted. The continued and, at times, obsessive, recontracting that has taken place with regard to the X-Factor has severely undercut the Commission’s ability to induce the type of behavior which it correctly sought when it adopted price cap regulation in 1991.⁸ The behavior that price cap regulation should induce is the investment in new infrastructure technology, pricing, introduction of new services and efficiencies that would exist in unregulated, competitive markets.

In order for the incentives of price cap regulation to replicate the competitive marketplace, the regulator must not change the plan with each success or failure by a company. Sufficient time must be permitted for a company to succeed or fail before the “contract” ends and the terms are reset. A regulated company must have an opportunity to incorporate the incentives into its business and investment planning. The success of the incentives of price cap regulation depends upon the companies’ belief that the parameters of the plan are fixed and unaffected by

⁶ 47 U.S.C. Sec. 402(h).

⁷ FCC Brief for Respondents at 47.

future results. Dr. Taylor warns that the 1999 staff study and the imputed X staff study will seriously jeopardize the links between price cap regulation and improved incentives and will actually impede the efforts of the price cap LECs to achieve technical and dynamic efficiencies. These staff studies signal that the Commission is unwilling to abide by the terms of the price cap contract it adopted in 1997 with the result being an unintended dulling of incentives and a loss of future credibility.

Price cap regulation does not link revenues to costs, providing the regulated company the proper incentive to use cost minimizing methods to be more efficient. The Commission must recognize that prices do not equal costs at every instant in time in normal, competitive markets. Whether the Commission attempts to match revenues to costs explicitly as suggested by the imputed X staff study or implicitly by changing the terms of the price cap contract when earnings are perceived to be too high as the 1999 staff study does, has the same effect: undermining both the company's incentives to reduce costs and the future credibility of the regulator. In its 1997 Price Cap Performance Review, the Commission decided that earnings sharing was no longer a proper tool to maintain in the price cap plan. The Court upheld that decision. The Commission should not now use price cap LEC earnings as a basis for altering the contract. If regulated firms believe that superior performance during the life of the contract will be used in setting the target for the next period, the firm's incentive to maximize efficiency is compromised. Dr. Taylor describes this as the "ratchet effect".

The Commission's inability to commit to the model adopted in 1997, without the deficiencies identified by the Court which the Commission used to produce a higher X-Factor, undermines its future credibility and is likely to reduce the amount of cost-reducing and welfare

⁸ Since 1990, the Commission has proposed or adopted five different methods to calculate the X-Factor with values that differ by a factor of four.

enhancing behavior that price cap regulation should inspire. Incentive regulation without regulatory commitment will have no lasting or important impact on behavior and thereby will defeat the replication of the competitive market. Both the regulated firms and their customers will be worse off as a result.

B. The Drastic Changes Proposed in the Staff Studies are Not Warranted Given the Success of Price Cap Regulation.

The Commission's basis for proposing the two staff studies, that LECs have earned excess profits, is incorrect. Access customers have enjoyed the accumulated benefit of approximately \$23 billion in access price reductions from January 1, 1991 through June 30, 1999. LEC earnings increases cannot be characterized as excessive, but have risen at a modest rate compared to the earnings levels of the Value Line Industrials.⁹ Price cap LEC operating efficiency has risen dramatically since price cap regulation was implemented. Prices are declining providing immediate benefits to access customers. Operating efficiency has increased dramatically also enhancing consumer welfare. Earnings are rising at a reasonable rate demonstrating that the incentives are indeed working and increases in LEC earnings are the product of increased efficiency. There is no need for the overhaul of price cap regulation proposed in the new staff studies.

C. The 1999 TFP Study Is Not Based on Economic Principles as it is Arbitrarily Biased to Increase the X-Factor and Should not be Adopted Unless Corrected as Discussed Herein.

The 1999 staff study is arbitrarily biased to increase the X-Factor. Practically every variable in the 1997 TFP model is changed including those that were not challenged in the appeal

⁹ Value Line Industrials are a composite of 875 industrial, retail and transportation companies whose financial data has been pooled. Recent composite data appears in Value Line Selection and Opinion, July 23, 1999 at 5445-5446. See, also, Comments of USTA, Access charge Reform, Price Cap Performance Review for Local Exchange Carriers, Interexchange Carrier Purchases of Switched Access Services Offered by Competitive Local Exchange Carriers, Petition of U S WEST Communications, Inc. for Forbearance From Regulation as a Dominant Carrier in the

process. Each change results in an increase in the X-Factor. While it is acknowledged that any analysis of productivity growth is extremely sensitive to the data selected and the time period utilized, the Court's decision should serve to remind the Commission that arbitrary efforts to redefine variables in order to achieve a higher X-Factor must be resisted. Yet, this appears to be exactly what the 1999 staff study requires. The changes include removing an average of \$3 billion of alleged excess earnings on an annual basis as part of the new cost of capital determination and an average of \$1 billion in severance expenses annually between 1991 and 1998. This type of ad hoc adjustment exhibits the same arbitrary and capricious decision-making rejected by the Court and supposedly rejected by the Commission when it adopted the economically meaningful TFP analysis in 1997. The Commission should not abandon its earlier commitment to economic meaningfulness, but should continue to use economic principles in its utilization of a model. The 1999 staff study ignores economic principle in order to reach a higher X-Factor. Not surprisingly, if the changes in the 1999 staff study are corrected, the results are consistent with the 1997 model.

In his paper appended hereto as Attachment 3, Professor Gollop examines each change as follows:

- The inappropriate application of the Moody's Baa bond rate as a proxy for LEC opportunity costs results in an upward-biased X-Factor.
- The incorrect application of the external rate of return to the LECs' cost of capital results in an upward-biased X-Factor.
- The use of external rates of return that ignore the actual revenues, income taxes, material expenses and operating expenses of the LECs leads to an upward-biased X-Factor.
- The failure to model LEC and U.S. nonfarm productivity accounts on a symmetrical basis leads to an upward-biased X-Factor.

- The exclusion of labor severance payments in labor expenses leads to an upward-biased X-Factor.
- The use of local DEMs to measure output leads to an upward-biased X-Factor.
- The use of an incorrect U.S. nonfarm business input price series, which does not correspond to the series produced by BLS leads to an upward-biased X-Factor.
- The continued reliance on inconsistent data series leads to an upward-biased X-Factor.

The Court of Appeals did not request the significant changes to the 1997 TFP model which are included in the 1999 staff study. Further, the 1999 staff study suffers the same lack of rational explanation that compelled the Court to reject the Commission's choice of a 6 percent productivity factor. Professor Gollop states that changes to the 1997 model should only be made when clear and unambiguous errors are detected. Even then, such changes should be prospective only. As the Commission itself points out, the simple fact that the X-Factor is fixed and independent of actual costs creates an incentive for the LEC to be more efficient. Obviously, it is the promise of profits that stimulates productivity growth. The Commission should not change the rules of the game if the result is to diminish incentives. Likewise, errors in the 1999 staff study should not be transported to the 1997 model. A straightforward application of economic principles indicates that the current 6.5 percent productivity factor is not justified by any meaningful measure of LEC performance. The 1991-1998 and 1994-1998 average X-Factors in the 1997 TFP model updated by USTA are 4.12 percent and 4.06 percent respectively. The corresponding averages in the corrected 1999 study are 3.29 percent and 3.76 percent respectively. The consistency of these results support the Commission's use of the 1997 TFP model consistent with the Court's decision for the historical period and support the continued application of a TFP model which is consistent with the USTA TFPRP or the updated 1997 TFP model in the future.

The most significant difference between the 1997 TFP model and the 1999 staff study involves the treatment of the cost of capital.¹⁰ The Commission suggests that the cost of capital was miscalculated in the 1997 TFP model and proposes to replace it with a new external cost of capital. The use of an external cost of capital is preferable to the internal cost of capital which was supported by AT&T. USTA used an external cost of capital in its TFPRP model. The problem identified by Professor Gollop is that the rental cost of capital utilized in the 1997 TFP model is altered to reflect competitive opportunity costs in the 1999 staff study. The Commission also erroneously uses Moody's Baa bond rate as the proxy for competitive opportunity costs. The use of Moody's Baa rate as the proxy for opportunity costs and the application of the Baa adjustment to the entire rental price of capital are contrary to the most fundamental accounting and economic principles.

As Professor Gollop explains, the use of the Moody's Baa bond rate does not reflect a realistic or appropriate proxy for opportunity costs. Further, opportunity costs are but one component of the rental cost of capital which also includes compensation for capital input for depreciation, amortization, rental payments, business transfers, property taxes and federal, state and local income taxes. This fact is supported by the work of Jorgenson and Grilliches cited in footnote 32 of the FNPRM's Appendix B. The 1999 staff study fails to include these components.

As noted, the 1999 staff study assumes that LEC returns in 1991 equaled true opportunity costs. The study adjusts on a forward and backward basis using the Moody's Baa bond rate. While the forward adjustments are at least consistent with the stated concern regarding the differences between internal rates of return and opportunity costs, the backward adjustments do not make sense. The study adjusts LEC rental costs of capital for the period 1985 to 1990, when

¹⁰ Dr. Vander Weide below discusses the inappropriateness of the proposed cost of capital methodology in detail.

the price cap LECs were under rate of return regulation. The gross discrepancies between the opportunity costs included in the 1997 TFP model and the 1999 staff study for that period, as depicted by Professor Gollop in Table 3, are not explained.

The 1999 staff study also includes arbitrary adjustments to LEC revenues, taxes and operating expenses. Professor Gollop finds that such adjustments are not only incorrect, but make no sense. Both capital expenses and, as a result, total LEC costs are adjusted downward to reflect what the study claims are economic costs. As a result, costs are below booked revenue rather than equal to reported revenue. These adjustments create a modeling bias to increase the X-Factor. These adjustments to LEC data also introduce an asymmetry into the TFP and Input Price Differential with the US nonfarm business data.

Further, as Professor Gollop explains, in converting to an external rate of return measurement, the 1999 staff study fails to make the necessary adjustments to the BLS nonfarm TFP and input price growth, which are based on internally calculated rates of return. This also creates a bias leading to an increased X-Factor.

The 1999 staff study also excludes labor severance payments from labor expense. The study characterizes severance payments as “exogenous” changes that should be netted out. This characterization is incorrect. Severance payments are not exogenous, but reflect endogenous business decisions.¹¹ By netting out the severance payments, the 1999 staff study is effectively disallowing a legitimate labor expense. This adjustment to labor expense ignores the economic principles underlying input price measurement. A properly crafted TFP model requires that the measured input price for labor reflect the incremental cost that a cost-minimizing firm would incur to hire additional labor and/or retain its existing work force. This adjustment assumes that

¹¹ Even if such payments were exogenous, which they are not, Professor Gollop explains that exogenous factors should not automatically be excluded from the measure of labor expense.

reductions in the workforce from 1991 through 1998 without severance payments would have had no impact on labor productivity or future wage levels. Market forces require that firms make severance payments. Proper TFP modeling requires that this legitimate cost be included in labor expense.

The 1999 staff study changes the measure of local output from the number of local calls used in the 1997 TFP model to dial equipment minutes (DEMs). This change does not reflect the source of local revenue that should determine the appropriate measure of local output. As Professor Gollop explains, 67 percent of intrastate revenue is related to lines. Only 33 percent of intrastate revenue is related to usage. More than 80 percent of local revenue is related to lines. To have an economically meaningful X-Factor, the measure of output used in the model should correspond to the outputs driving revenue growth. Obviously, lines are a far superior measure to either calls or DEMs. If the Commission is seeking a more appropriate measure in the 1999 study, it should utilize lines. In Table 4, Professor Gollop provides a comparison of the growth rates of local calls, local DEMs and access lines. The erratic nature of the growth of DEMs would introduce a substantial bias in the X-Factor.

The 1999 staff study also uses an incorrect nonfarm business sector input price series. Based on the Commission's description of the series used, Professor Gollop contacted BLS and found that contrary to the Commission's statement, the input price series that corresponds to the nonfarm business sector TFP index produced by BLS is not available on a quarterly basis, is not available on the web site and has not changed since BLS provided it to Professor Gollop for his update of the 1997 TFP model.

Finally, Professor Gollop points out a number of incorrect and/or inconsistent data points, which should be corrected.

Professor Gollop provides a “corrected” version of the 1999 staff study that eliminates the errors described above. For example, he properly applies an external rate of return analysis to that fraction of property income that should be adjusted, as depicted on Table 1 and no adjustment is made for the period 1985 to 1991 when LECs were under rate of return regulation. He uses the movements in the rates of return reported by Value Line for its sample of 875 of the largest industrial firms to more realistically represent the expected movement in LEC opportunity costs. Opportunity costs are defined as the return an investor can expect in the next best use of its funds. The Value Line series better reflects economic trends, as shown in Table 2. The bias introduced as a result of the arbitrary downward adjustments to costs is removed. Severance payments are included in LEC labor expense totals. Professor Gollop also uses lines to measure local output as well as the correct BLS price index. Data point errors are corrected. Table 5 presents a comparison of the 1997 TFP model as previously updated by Professor Gollop in 1999 and included as Attachment 4; the 1999 staff study as described in the FNPRM and the corrected 1999 study. Obviously, the X-Factor is sensitive to modeling errors whereas a model that is based on established economic principles produces consistent results. A summary table of these results is included in Attachment 3.

	1999 Staff Study	Corrected 1999 Staff Study	1997 TFP Model
1991 – 1998	6.33	3.29	4.12
1994 – 1998	6.02	3.76	4.06

The Commission should also be aware that the Bureau of Economic Analysis released revisions to its GDP accounts on October 28, 1999 and the BLS released revised labor productivity growth rates for the nonfarm economy in November. Professor Gollop estimates

that these revisions, which must be reflected in any TFP model, will decrease both the TFP differential and the measured X-Factor.

D. The Imputed X Staff Study is Theoretically Unsound and Inferior to the Use of TFP to Measure Productivity Growth.

The imputed X staff study has no basis in economics and is contrary to the Commission's own policies. It certainly is not contemplated by the Court's decision, which did not reject the TFP model, but reversed the Commission's choices in applying the model. There is no basis for this proposal, which abandons the TFP approach. The Commission supported the TFP approach and explained to the Court that it "also acted rationally in defining the productivity growth component of the X-Factor as the growth for all the LEC's services – interstate and intrastate combined. Using this total company approach yielded similar results to those expected from an interstate-only approach."¹²

The imputed X staff study, which is based on a previously discarded AT&T historical revenue model, represents a complete departure from price cap regulation and produces the same disincentives as traditional cost plus regulation. It relies on accounting costs rather than economic costs. It eliminates productivity incentives. It incorrectly relies on the Moody's Baa bond rates to create a competitive capital compensation index. It attempts to estimate an interstate-only X-Factor which both the Commission and the Court have rejected. It incorrectly utilizes accounting earnings resulting in erroneous conclusions. It ignores the costs associated with stimulated minutes. It is not hard to discern that the purpose of the imputed X staff study is to eliminate earnings thereby eviscerating the incentives of price cap regulation. According to the spreadsheet results provided by the Commission, the interstate earnings for the price cap

¹² FCC Brief for Respondents at 23.

LECs are almost a full two- percent below the minimum LFAM level. The imputed X will result in illegal confiscation.

Dr. Taylor describes these fundamental infirmities of the imputed X in Attachment 1.

First, because the imputed X staff study uses accounting costs that have been jurisdictionally separated using fully distributed cost methods, it is not forward-looking nor is it consistent with the Commission's stated goal of relying less on regulatory accounting and earnings data. In the 1997 order, the Commission noted that it was "essential" to reduce regulatory reliance on earnings calculations based on accounting data in order to transition to a competitive marketplace.¹³ The Commission repeated this assertion to the Court of Appeals.¹⁴ The imputed X staff study requires detailed accounting data as well as the separation of common costs. This study represents a giant leap backward from the transition to a competitive marketplace.

Second, the imputed X staff study will eliminate incentives to increase productivity and become more innovative because the X-Factor would be set to produce a pre-determined earnings level. Tying price changes to changes in efficiency reduces productivity incentives. Price cap regulation is based on the promise that LECs will not be forced to forfeit the entirety of their productivity gains. The imputed X would undo all of the changes in incentives that were intended to benefit consumers and re-institute traditional cost-plus regulation with a lag. LECs would be forced to return earnings from cost reductions. In effect, efficiency improvements would be penalized. The impact would be compounded by the fact that LECs would have to make the same cost reductions each year. Based on the data in Appendix C of the FNPRM, price cap LECs would be required to forfeit between \$1 to \$2 billion in income. The Commission

¹³ 1997 Performance Review at para. 60.

¹⁴ FCC Brief for Respondents, June 15, 1998 at 12.

itself recognized the detrimental impact of this approach in prior orders. In 1995, the Commission noted that this method “basically reprices access services over a historical period to achieve a target rate of return. To the extent that increases in earnings resulting from increases in productivity would increase the X-Factor...[it] may not create adequate incentives for increasing productivity.”¹⁵ Again in 1997 the Commission found that this method “would create substantially similar incentives to those under rate of return regulation, because the X-Factor would explicitly be linked to earnings.”¹⁶ At a time when telecommunications providers are vigorously competing to offer local exchange, long distance, high-speed Internet access, wireless and cable services, it is unsound and economically irrational to adopt an imputed X and penalize LECs for efficiency improvements.

Third, the fundamental weakness of the imputed X study is its attempt to estimate an interstate only X-Factor. It has been established before the Commission and before the Court of Appeals that there is no economically meaningful way to assign portions of common facilities to specific services.¹⁷ This is why the TFP model that is based on total company results is far superior, because the question of the economically arbitrary manner in which revenues, expenses and investments are assigned is not an issue. The Commission itself recognized this point in its Court brief:

One possibility is to calculate an interstate-only measure of productivity growth. to do this however, the Commission would need to know the changes in quantity of interstate outputs and changes in the quantity of interstate inputs because TFP productivity growth is calculated as the percentage change in the index of outputs minus the percentage change in the index of inputs. While it is relatively straight-forward to ascertain the quantify of interstate outputs, it is far more difficult to derive an economically meaningful measure of interstate inputs. This is because a LEC’s inputs are not compartmentalized into those providing interstate services and

¹⁵ Further Notice of Proposed Rulemaking CC Docket No. 94-1, (rel. 1995) at para 81.

¹⁶ 1997 Performance Review at para. 22.

¹⁷ USTA Reply Comments, CC Docket No. 96-262, November 9, 1998 at Attachment C.

those providing intrastate services: the LEC provides both over the same network.¹⁸

Fourth, the results of the imputed X study are primarily driven by the erroneous assumption that interstate earnings exceeded the level that would have been observed in a competitive market. LEC earnings, as measured by regulatory accounting, do not pretend to measure economic profit. Changes in accounting earnings are a poor measure of changes in economic profit for three primary reasons. First, economic profit is not defined for interstate services because there is no economic basis upon which to split common costs between interstate and intrastate services. Second, regulatory earnings are impacted by numerous accounting conventions that provide no forward-looking information regarding profit opportunities. Third, the accounting treatment of depreciation for regulated LECs is based on asset lives that are currently too long and have historically been too long, so that LEC accounting profits are overstated relative to economic profits. Further, as telecommunications markets become even more competitive, market forces will provide a more realistic appraisal of the LEC capital stock and as asset lives are reduced, the associated changes in accounting profits will again be a poor measure of changes in economic profits.

This issue has been addressed previously by USTA. In its October 29, 1999 comments in CC Docket No. 96-262, Dr. Taylor pointed out that as an empirical matter, earnings of price cap LECs have not performed as well as the average industrial firm over the same time period. At the same time, however, wholesale and retail prices have dropped more than the average industrial firm. For example, during the period 1990 to 1998, the annual growth of interstate operating income for the BOCs averaged 3.3 percent compared to 8.7 percent for the Value Line Industrials.

¹⁸ FCC, Brief for Respondents at 41.

Dr. Taylor explains that the imputed X study is based on an erroneous assumption that price cap LECs have experienced an alleged windfall according to interstate accounting rates of return. An earnings analysis at the interstate level is economically meaningless. Accounting earnings are dependent upon the investment and expenses that have been separated and allocated to the inter and intrastate jurisdictions. The separations rules are not designed to separate costs for the purpose of establishing forward-looking prices. The rules do not reflect cost causation. Earnings growth measures based on separated costs are distorted by the separations process which provides no economically meaningful information about earnings. For example, a current separations allocator is relative minutes of use. If local minutes grow faster than interstate minutes, fewer fixed costs are assigned to the interstate jurisdiction and an accounting analysis of earnings would show higher interstate earnings, despite the fact that there is no indication that forward-looking economic factors have changed. A prime example of this is Internet bound traffic. Internet minutes are arbitrarily assigned to the intrastate jurisdiction despite the fact that the Commission acknowledges such traffic is in reality interstate. The assignment, however, under an accounting analysis of earnings, increases the level of measured interstate earnings even though such traffic creates costs but little revenue in proportion to those costs.

Regulatory accounting distorts both the level and growth of price cap LEC earnings. When accounting rates of return are adjusted to reflect economic rates of return, the actual rate of return achieved by the price cap LECs during the 1991 to 1995 period averaged only 8.75 percent. The Commission knows that regulatory accounting cannot be relied upon:

Reported earnings are calculated on the portion of embedded investment and expenses that are allocated to the interstate jurisdiction by Part 36, the jurisdictional separations manual. Interstate rate base and expense levels, and thus reported earnings are also directly affected by accounting depreciation rates, which we prescribe for most incumbent price cap LECs. By contrast, in a competitive marketplace, decisions are governed by economic costs and economic

depreciation rates. Reduced reliance on accounting costs thus facilitates our transition to the competitive paradigm of the 1996 Act.¹⁹

Fifth, the imputed X staff study incorrectly adds stimulated revenues, resulting in an upward bias in its estimate of the X-Factor. Specifically, the study assumes that additional volumes, such as lines or minutes, are provided with no increases in capital or operating expenses. This assumption is faulty. Every additional interstate call entails operating expenses such as measurement, rating and billing. Repair and maintenance expenses can be significant even in the short run. Further, usage in the short run can affect the occurrence of capital expenditures in the long run for additional switching and transport facilities.

Adoption of the imputed X study would signal the end of incentive regulation and the return of traditional cost plus regulation. Such a result is not contemplated by the Court's decision and does not represent a rational policy for the future as the Commission transitions to a competitive marketplace. Certainly, the Commission, which cogently described the drawbacks of rate of return regulation in its brief submitted to the Court of Appeals, recognizes that the imputed X study will provide no incentive to improve efficiency or enhance innovation.²⁰ The industry has had over ten years of experience under price cap regulation. It is simply unnecessary to track accounting rates of return to be sure price cap regulation is working. If the X-Factor is to be recalculated to keep accounting earnings at an allowed level, the incentives of price cap regulation will be destroyed and investment and business planning will look very different in the future. This study must be rejected.

¹⁹ 1997 Performance Review at para. 152.

²⁰ FCC Brief for Respondents at 5.